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HOUSE ADMINISTRATION

Congress of the United States
House of Representatives
Washington, DC 20515-1602

July 17, 2013

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Chrstopher Bliley
Associate Administrator for Congressional and Intergovernmental Relations
Environmental Protection Agency
1200 Pennsylvania Avenue, NW, Room 3426 ARN
Washington, DC 20460

Dear Administrator Bliley:

Enclosed, please find correspondence that I received from Mr. Mark Friedrich who is affiliated with Enviro-Safe Refrigerants, Inc.

Enviro-Safe manufactures hydrocarbon refrigerants, which serve as a Freon substitute. I am told that this product has been evaluated by the EPA under the Significant New Alternatives Policy (SNAP) program and determined to be an acceptable substitute, as it has no significant adverse impact upon the environment.

Nevertheless, one of Enviro-Safe's suppliers, the Aeropres Corporation, recently contacted them to report that they had become the target of a lawsuit. That suit revolves around a contention that the sale of hydrocarbon refrigerants in the United States was illegal. As a result, Aeropres has announced that they will no longer do business with Enviro-Safe until such time as it can be proven that their product is in compliance with the law.

Mr. Friedrich maintains that hydrocarbon refrigerants have never been determined to have an adverse environmental impact, and is perplexed as to why these actions have been taken. He is unaware of any EPA regulation that his company might be violating.

Any assistance your office might be able to provide in clarifying these issues would be greatly appreciated. Until this problem is resolved, the future of this business located in my district will be at risk. To respond, please contact Bryan Rudolph in my Peoria Congressional Office.

Thank you for your consideration of this urgent matter. I will look forward to hearing from you.

Sincerely,

Aaron Schock
Member of Congress

AJS/br

CC:
Mark Friedrich
Enviro-Safe Refrigerants, Inc.
400 Margaret Street
Pekin, Illinois 61554

ENVIRO-SAFE

400 Margaret Street
Pekin IL 61554

Phone: 309-346-1110
Fax: 309-346-1237
Toll Free: 888-913-1110

Fax Transmittal Form

To Brian Rudolph

From Randy Price

Name:
Organization Name/Dept:
CC:
Phone number:
Fax number: 671-7309

Enviro-Safe Refrigerants, Inc.

Phone: 309-346-1110
Fax: 309-346-1237
Toll Free: 888-913-1110

☐ Urgent
☒ For Review
☐ Please Comment
☐ Please Reply

Date sent: 7/16/13
Time sent: 3pm
Number of pages including cover page: 2

Message: Per Conversation with Mark Friedrich, see attached.

200 Petroleum Square Two
1324 N. Hearne Ave., Ste. 200
Shreveport, Louisiana 71107-6536
Phone: 318.221.6282

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A. E R O P R E S
CORPORATION

P.O. Box 78588
Shreveport, LA 71137-8588
Fax: 318.213.1270
www.aeropres.com

July 9, 2013

Mr. Randy Price
Enviro-Safe Refrigerants Inc.
400 Margaret Street
Pekin, IL 61554

Dear Mr. Price:

Regrettably, as a result of being named as a defendant in a lawsuit, it has come to our attention that products supplied by Aeropres Corporation and sold to Enviro-Safe Refrigerants, Inc. have been sold in the United States for refrigerant applications that are not authorized under the law. For this reason, Aeropres will immediately cease the supply of its products to Enviro-Safe and will be unable to supply Enviro-Safe with any product until such time as Enviro-Safe can establish that the products of Aeropres are not being sold illegally in the U.S.

Should you have any questions, please contact Aeropres' attorney, Mr. Jim Julian, attorney with Chisenhall, Nestrud and Julian, P.A. at 501.372.5800.

Regards,

Aeropres Corporation

Joe Bowen

Joe Bowen
Vice President, Sales & Marketing

International inquiries please contact Coolant Express at 1-877-667-5533

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FAQ

General

What are Hydrocarbons?

Hydrocarbon refrigerants are environmentally friendly, non-toxic, non-ozone-depleting replacement for chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs). From a chemical point of view, a hydrocarbon is the simplest organic compound, consisting entirely of hydrogen and carbon. Hydrocarbons (HC) are naturally occurring substances. The majority can be found in crude oil, where decomposed organic matter provides an abundance of carbon and hydrogen.

What advantage do they have over other refrigerants?

Hydrocarbons are one of the most climate-friendly and cost-efficient refrigerants to heat, cool and freeze:

- **Non-ozone depleting:** Ozone Depletion Potential = 0
- **Not climate damaging**: Global Warming Potential = Most Hydrocarbons have a rating of 3 as compared to some synthetic refrigerants that have a Global Warming Potential of 3,260
- **Non-toxic**
- **Safe:** with proper handling
- **Energy-efficient**: usually better energy efficiency than CFC or HFC systems
- **Easy replacement:** able to replace many gases in existing systems without the need to change components or oils
- **Cost-efficient:** low refrigerant purchase price as well as lower system running cost.

These types of refrigerants are endorsed by the GreenPeace organization and are in full compliance with

the UN Montreal Protocol.

HCFC Phase-out Schedule

Montreal Protocol		United States	
Year to be Implemented	**% Reduction in Consumption and Production, Using the Cap as a Baseline**	**Year to be Implemented**	**Implementation of HCFC Phase-out through Clean Air Act Regulations**
2004	35.0%	2003	No production and no importing of HCFC-141b
2010	75.0%	2010	In addition to the HCFC-141b restrictions, no production and no importing of HCFC-142b and HCFC-22, except for use in equipment manufactured before 1/1/2010 (so no production or importing for NEW equipment that uses these compounds)
2015	90.0%	2015	In addition to the HCFC-141b, HCFC-142b and HCFC-22 restrictions, no production and no importing of any other HCFCs, except for use as refrigerants in equipment manufactured before 1/1/2020
2020	99.5%	2020	No production and no importing of HCFC-142b and HCFC-22
2030	100.0%	2030	No production and no importing of any HCFCs

Are hydrocarbon gasses new?

No. They have been in use since before ozone-depleting CFCs were developed and were re-introduced for use in heat pumps after the CFC phase-out. Their thermodynamic data, efficiency, and material compatibility are well known. In some countries, appliance manufacturers and food producers began using hydrocarbon replacement gas in appliances shortly after 2000, due to environmental concerns.

Which gasses can hydrocarbons replace?

Hydrocarbons can replace many obsolete CFCs, HCFCs, and HFCs, including the ozone-depleting refrigerants R12, R13, and R22 in domestic, commercial and industrial refrigeration, and car air conditioning. It is also a substitute for R134a, R404a, R407c or R502a in fridges, freezers, cascade

are 3 elements that all need to coincide at the same time:

1. Hydrocarbons will need to be released.

2. The correct proportion of air needs to mix with the Hydrocarbon, the range of flammability generally being 1.9% to 8.5%. Combustion cannot occur outside these limits.

3. There needs to be some type of ignition source, which exceeds 598°C. **If any 1 of these 3 elements isn't present, then the combustion cannot occur.**

Generally if there is a leak in a system, only a small percentage of refrigerant will leak out, not the whole amount. Then due to the Hydrocarbon being able to dissipate so quickly, it would be extremely difficult to meet the range of flammability.

Hydrocarbon gas is rated as a Flammable Gas 2. This means there is a moderate chance of fire or flame. However, flammable products are used every day within the household, business and in automobiles.

Aerosol products such as hairspray, room deodorizers, under arm deodorant, penetrating oil, WD 40, etc. are all classed as a flammable and are used all over the USA and the world as a safe product in home and automotive used when used as per manufacturer directions.

Hairspray = Flammable 3, Gasoline = Flammable 4, Starting Fluid = Flammable 4, Coolant Express Refrigerant = Flammable 2. Coolant Express Refrigerant can be used safely in automobiles and A/C units. All flammable products require your respect, adequate precaution and safe use practices. Follow all directions on the can or label.

What is the difference between Coolant Express and HFC-134a or R-12?

Coolant Express is an all-natural, non-ozone depleting material with 0 global warming potential. In fact, it is so pure; it is classified as a pharmaceutical grade product! R-12 and HFC-134a are man-made, chemical refrigerants that do not utilize all natural products. R-12 has both, high global warming and high ozone depletion, while HFC-134a does not affect the ozone, it does have a very high global warming potential according to reports.

Additionally, manmade chemical refrigerants can contain higher levels of impurities that can cause:

- Moisture /acid buildup;
- Reduction of Cooling Capacity;
- Increased energy consumption
- Increased working pressures.

What about energy efficiency?

Yes! Hydrocarbons are more energy-efficient than most conventional HFC or CFC systems. Used in residential air conditioning units, hydrocarbons have reported to be in the range of 20-40% more efficient than synthetic refrigerants.

http://www.epa.gov/ozone/snap/refrigerants/qa.html
Last updated on Friday, June 07, 2013

Ozone Layer Protection - Alternatives / SNAP

Questions and Answers on Alternative Refrigerants

These are commonly asked questions about substitute refrigerants. Lists are available in several formats. If you have questions beyond those in this fact sheet, please call the Stratospheric Ozone Protection Hotline toll-free at (800) 296-1996 or direct dial 202-343-9210 to leave inquiries.

You can also read more about EPA's Significant New Alternatives Policy (SNAP) Program, which evaluates alternatives for ozone-depleting substances. Finally, numerous fact sheets discuss motor vehicle air conditioning and substitutes for CFC-12 in this end-use.

General Questions

What refrigerants are used now? What is Freon?

"Freon" is a trade name for CFC and HCFC refrigerants sold by DuPont. Other trade names include Honeywell's "Genetron," Ineos Fluor's "Arcton," and Arkema's "Forane." Various companies sell the same CFCs, HCFCs, HFCs, and other products under different names. The most common ozone-depleting refrigerants are R-22, R-11, R-12, and R-123.

What alternative refrigerants are currently available? How do I know what I'm allowed to use?

Several new alternatives are on the market. The SNAP web site contains the latest list of acceptable substitutes by end-use. Another table lists the compositions of many blends, what they are intended to replace, their ASHRAE designations, and the generic names, if any, used when describing them in the Federal Register. The most common alternative refrigerants are R-404A, R-407C, and R-410A.

Who do I contact for information about substitutes?

Substitute refrigerants are made by many chemical manufacturers. Contact information, along with a listing of which refrigerants they make, is available from EPA's web site. A separate fact sheet is also available that lists manufacturers of motor vehicle air conditioning refrigerants.

What should I ask about new refrigerants?

EPA has a fact sheet titled "Ten Questions to Ask Before You Purchase An Alternative Refrigerant" that sums up the important points.

What are use conditions? Do I have to meet them?

In some cases, EPA believes that substitutes must be deemed unacceptable, unless the user meets specific conditions on *how* the substitute is used. Such substitutes will be listed as acceptable subject to use conditions. For example, EPA may require the use of a

rooms. The study concluded that if appropriate measures are taken (for instance, complying with ASHRAE 15), the concentration of HCFC-123 can be kept below 1 ppm.

EPA believes that HCFC-123 is a necessary and beneficial transitional refrigerant as the world phases out the CFCs, and SNAP lists it as acceptable for use in chillers.

Are flammable refrigerants automatically unacceptable?

EPA considers flammability as one factor in the SNAP risk screen. Rather than serving to disqualify a substitute, flammability may necessitate additional testing and assessment of risk. The risks from using a flammable refrigerant, such as a hydrocarbon, are extremely dependent on the conditions and type of equipment. EPA believes that it may well be possible to safely use flammable refrigerants, and encourages manufacturers to contact SNAP to discuss the information needed to support such a submission. To date, hydrocarbons have only been found acceptable in industrial process refrigeration. EPA is also currently reviewing four hydrocarbon refrigerants for use in household and commercial refrigerators and freezers.

It is illegal to use hydrocarbon refrigerants as CFC or HCFC substitutes in motor vehicle air conditioning. Furthermore, only a few hydrocarbon blends have been evaluated for other end uses, and those (HC-12a®, OZ-12a® and Duracool 12a) have been found unacceptable in all refrigeration and air conditioning end uses other than industrial process refrigeration. These refrigerants, as well as propane, butane, isobutane and propylene, have been found acceptable for industrial process refrigeration.

What are my choices for mobile air conditioning?

EPA has deemed several refrigerants acceptable for use in motor vehicle air conditioning, subject to several conditions on their use. In addition, several other fact sheets provide information about specific aspects of this type of system. CFC-12 may still be used as the refrigerant, but when a vehicle is retrofitted to use a new refrigerant, the conditions mentioned above apply.

How does EPA define the drop-in, retrofit, and new use categories?

Although EPA does not recognize any refrigerants as being "drop-in" substitutes, in general usage of the term means that the refrigerant provides exactly the same cooling, efficiency, durability, and other performance factors as the original refrigerant, with no changes to existing equipment. For purposes of SNAP determinations, EPA does not distinguish between drop-in and retrofit substitutes. The retrofit designation identifies substitutes that may be used in systems retaining at least some of the original equipment. Retrofits will generally be less expensive than new systems, meaning total replacements. Many substitutes will be acceptable in both categories. Alternative technologies will usually be deemed acceptable only in new equipment, since they cannot utilize parts of existing systems.

What other alternative technologies are available?

Several other technologies are available as an alternative to classic vapor compression and absorption cycle equipment. Processes such as desiccant cooling, evaporative cooling, and other innovative solutions exist for various end uses. For example, evaporative cooling, which uses the evaporation of water to effect cooling, is currently available in systems designed to cool homes, office buildings, transit buses and more.

detector to warn users of leakage. Users must meet such conditions, or they will be in violation of the SNAP rule. Several use conditions are imposed on all automotive refrigerants, as explained in a fact sheet about motor vehicle air conditioning.

Will EPA recommend the best substitute for my equipment?

No, EPA only determines what substitutes are acceptable from an environmental and health perspective. EPA does not test refrigerants for their effectiveness as part of the SNAP process. EPA firmly believes that the market should determine which of the acceptable alternatives will work the best and gain the largest market share.

I don't see any substitutes listed for my equipment. How do I find out what's available?

The SNAP program has identified eight major industrial use sectors, and several end-uses within each sector. The SNAP rule only applies to those end-uses listed.

Are there any safety considerations for new refrigerants in chillers?

EPA believes that adherence to Standard 15 of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) will ensure the safety of technicians and building occupants. This standard applies to the use of all alternative refrigerants. In addition, systems designed and operated in accordance with ASHRAE Standard 3 will leak minimal amounts of refrigerant, thereby reducing ozone depletion and global warming impacts.

Is HCFC-123 safe to use in centrifugal chillers? Why is EPA listing it as acceptable?

Toxicity in general is a complex issue. The two types of toxicity, chronic and acute, pose completely different sets of hazards. Chronic toxicity relates to long-term exposures over a lifetime of experience with refrigeration equipment. Acute toxicity, in contrast, relates to the dangers posed by short-term exposure to very high concentrations of refrigerant, especially catastrophic releases.

Short-term exposure levels measure several types of risk. Cardiotoxicity indicates the concentration at which a worker's heart becomes sensitized to adrenalin; thus, in an emergency, exposure to this level may result in a heart attack. The asphyxiation level indicates when the amount of oxygen in the area is reduced to the point that a worker may become unconscious and therefore unable to escape.

All refrigerants pose each type of toxicity risk. HCFC-123 poses less acute risk than CFC-11, thus in the event of a major leak, you're safer with HCFC-123 than with CFC-11, which has been used extensively and safely for a long time.

As for chronic toxicity, it is true that some tests have shown that HCFC-123 caused tumors in several organs in rats, including the testes. However, the critical facts are that, in all cases: a) the tumors were **benign**, b) they only appeared after long exposures to very high concentrations, c) the tumors were never life-threatening, and d) the exposed rats actually lived longer at these higher concentrations.

The Acceptable Exposure Limit (AEL) set by the HCFC-123 manufacturers is 30 ppm. This represents the concentration to which a worker could be exposed 8 hours/day for a working lifetime without effects. In other words, the AEL is a chronic exposure limit. EPA conducted a study to determine the typical exposure level found in actual equipment

Questions from Manufacturers

When should I let EPA know I'm selling a new substitute?

You must notify EPA at least 90 days prior to sale of a new substitute. This time period allows SNAP staff to review the health and environmental implications of use of your alternative.

What information should I send EPA about a new substitute?

All data to be reviewed by EPA must be included in the SNAP submission. The details are listed on the SNAP application.

How are SNAP-reviewed refrigerants described in the SNAP updates?

Wherever possible, EPA will use ASHRAE designations for refrigerants. In cases when refrigerant compositions are confidential, EPA will use trade names. If it is not possible to list trade names in the Federal Register, a list will be available that connects generic names to trade names.